



Distribution Standard System (DSS) DLMS Overview

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Terminology

- DLSS – Defense Logistics Standard System
(synonymous with “MILs”)
- DLMS – Defense Logistics Management System
- X12 – Accredited Standards Committee (ASC)
- IC – Implementation Convention (Federal)
- DS – DLMS Supplement (DoD)
- Transaction Set – X12 Transaction (ST/SE inclusive)
- “IC”, “DS”, “Transaction Set” are synonymous



X12 Components

- ISA – Interchange Control Header
- GS – Functional Group Header
- ST – Transaction Set Header
- Transaction Set
- SE – Transaction Set Trailer
- GE – Functional Group Trailer
- IEA – Interchange Control Trailer



DLMS X12 Transaction Example 856S Shipment Status (MILs AS8)

ISA*00* *00* *10*W25G1U *10*S36121 *050309*2113*#*00403*
GS*SH*W25G1U*S36121*20050309*2113*000163987*X*004030~
ST*856*0001~
BSN*00*ZZ*20050309*2113AS~**
HL*1V~**
N1*Z4M4*N32**FR~**
HL*2W~**
LINFS*1560010099129~**
SN11*EA~**
TD5**LT~**
REF*TN*V0911450670001~
REF*TG*V0911450670001XXX~
DTM*011*20050309~
N1*GPM4*SGA**TO~**
LM*DF~
LQ*0*AS8~
LQ*A9*V09114~
LQ*DE*J~
LQ*79*1~
HL*3P~**
REF*JH*CF1573235473155123456123~
SE*20*0001~
GE*1*000163987~
IEA*1*000163987~



DLSS Shipment Status Example (AS8 & JANAP 128)

RCCUIAZZ RUSAHBZ0987 0682122 MTMS-UUUU--RUSAZZA.

AS8N32 1560010099129 EA00001V0911450670001 V09114

068V0

RCCUIAZZ RUSAHBZ0987 0682122 0003-UUUU

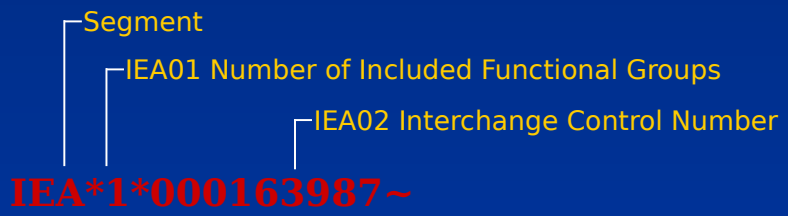
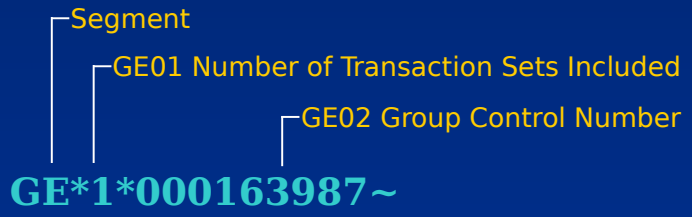
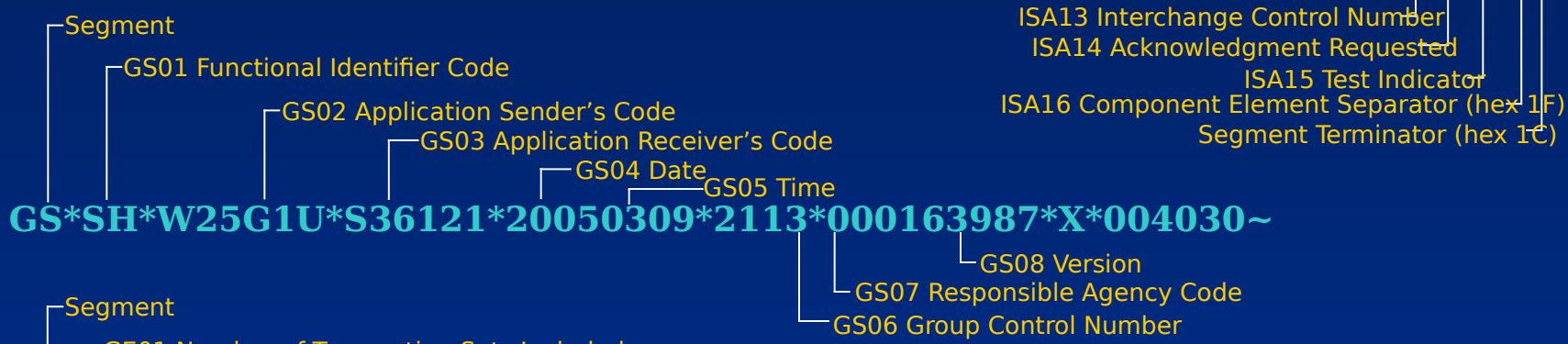
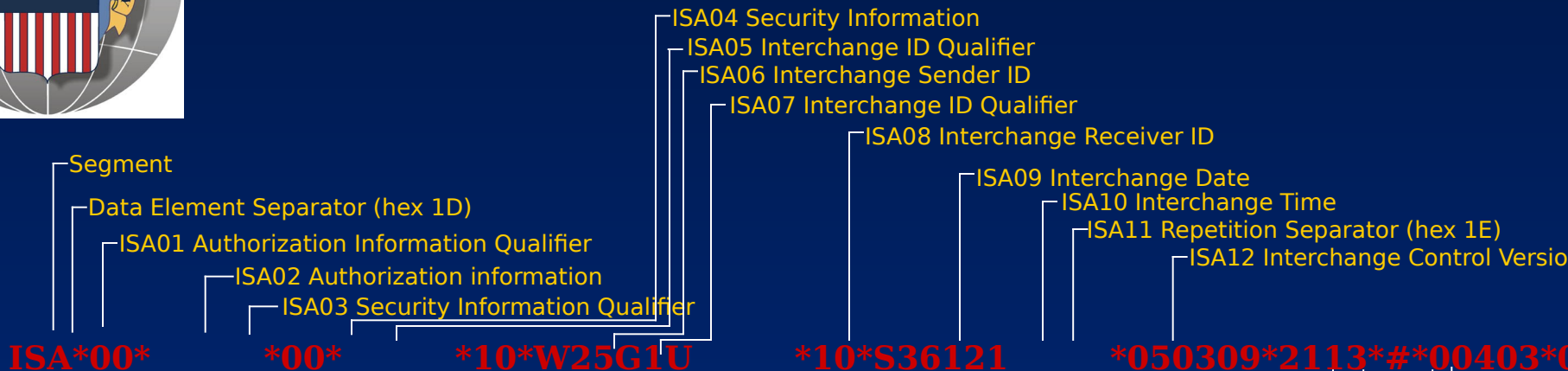


DLMS X12 Transaction Example 856S Shipment Status (MILs AS8)

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GS*SH*W25G1U*S36121*20050309*2113*000163987*X*004030~
ST*856*0001~
BSN*00*ZZ*20050309*2113AS~**
HL*1V~**
N1*Z4M4*N32**FR~**
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SN11*EA~**
TD5**LT~**
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REF*JH*CF1573235473155123456123~
SE*20*0001~
GE*1*000163987~
IEA*1*000163987~



Envelope Segments Breakout (4030)





856S Transaction Set Breakout (4030)

ST*856*0001~ -----Transaction Set Header, 856=Identifier, Con
BSN*00*ZZ*20050309*2113**AS~ -----Beginning Segment, Purpose, Identification,
HL*1**V~ -----Hierarchical Loop, ID Number, V=Address In
N1*Z4**M4*N32**FR~ -----Name Loop, Z4=Owning ICP, M4=RIC, Data,
HL*2**W~ -----Hierarchical Loop, ID Number, W=Transactio
LIN**FS*1560010099129~ -----Item Identification, FS=NSN, Data
SN1**1*EA~ -----Item Detail, 1=Number of Units Shipped, EA
TD5****LT~ -----Carrier Detail, LT=Less than Trailer Load
REF*TN*V0911450670001~ -----Reference, TN=Transaction Reference Num
REF*TG*V0911450670001XXX~ -----Reference, TG=TCN, Data
DTM*011*20050309~ -----Date/Time, 011=Shipped, Data
N1*GP**M4*SGA**TO~ -----Name Loop, GP=Gateway Provider, M4=RIC, I
LM*DF~ -----Source Information, DF=DoD
LQ*0*AS8~ -----Industry Code Loop, 0=DIC, Data
LQ*A9*V09114~ -----Industry Code Loop, A9=Supplementary Addr
LQ*DE*J~ -----Industry Code Loop, DE=Signal Code, Data
LQ*79*1~ -----Industry Code Loop, 79=Priority Code Design
HL*3**P~ -----Hierarchical Loop, ID Number, P=Pack
REF*JH*CF1573235473155123456123~ --Reference, JH=Tag, Data (RFID)
SE*20*0001~ -----Transaction Set Trailer, 20=Number of Segm



DSS Criteria

- Stringent DS compliance
- Exclusively X12
- Full capability for parsing and formatting of transactions and envelopes (not mere UDF)
- Utilize MQ Series to exchange X12 with DAASC
- X12 exchange is exclusive with DAASC
- X12 transactions are inherently “MILsish” data
- Some expanded data evolution (i.e.; UII & RFID)



DAASC

- Maintains profiles for all trading partners
- Translates DLMS to/from DLSS
- Translates X12 versions
- Translates X12 to/from XML
- Maintains translation maps (proprietary)
- Participates in interface testing
- Recommend involving them at every step



DSS Design

- New front end does all X12 parsing, formatting, enveloping, transmitting, and transaction history maintenance (inbound & outbound).
- X12 knowledge base, common/reusable code, enhancements, maintenance, and compliance.
- All analysts and programmers understand X12 transactions but their applications utilize only consistently positioned parsed “data” (via unique data structures on common databases).



DSS Design (continued)

- DSS is “bi-lingual” for both DLSS & DLMS transaction processing.
- Can accept and process inbound transactions in either format based merely upon their arrival.
- Can format and transmit outbound transactions in either format by 3 position DLSS DIC (via an internal DSS table).

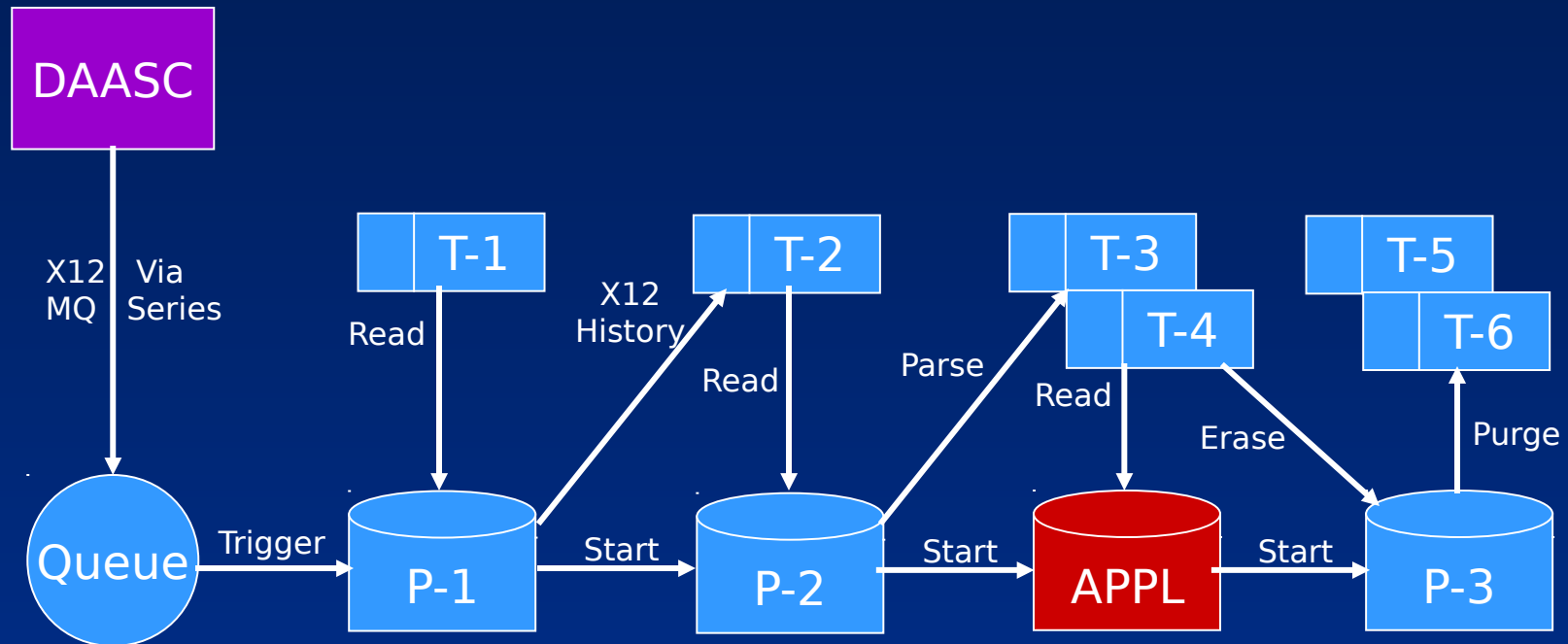


DSS Design (summary)

- 200+ DLSS Transactions incorporated into 23 DLMS Transaction Sets.
- Individual application programs have been taught to accept and/or generate either DLSS transactions or parsed DLMS data.
- Front end process does all parsing, formatting, enveloping, transmitting, and transaction history maintenance.



DSS Inbound Transaction Flow



Database Tables:

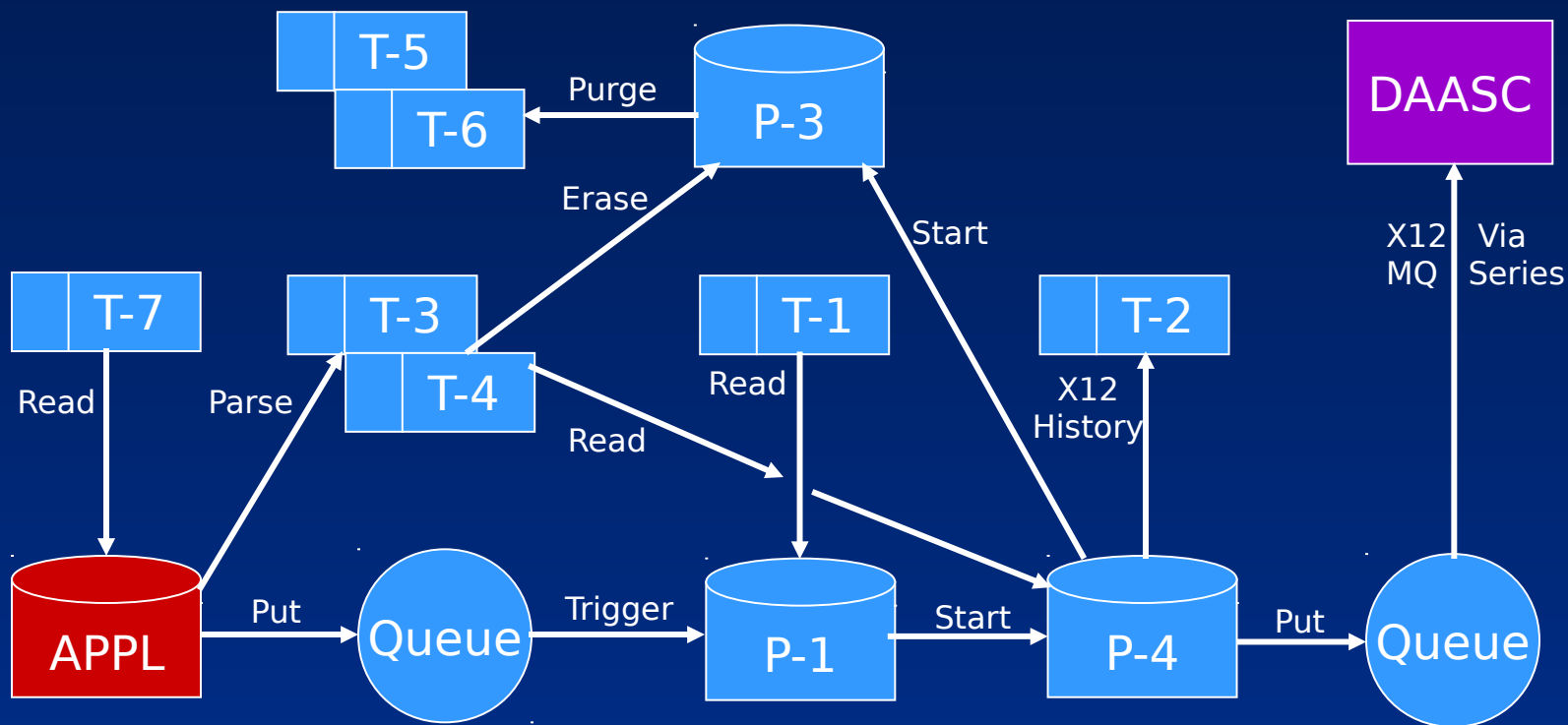
- T-1 = Control Table (X12 to P-2 cross reference)
- T-2 = X12 History Table (X12 footprint)
- T-3 = Parsed Transaction Data
- T-4 = Parsed Transaction Repeating Data
- T-5 = Archived T-3 Data
- T-6 = Archived T-4 Data

Programs:

- P-1 = Accepts X12 from Q, reads T-1, records footprint to T-2, starts P-2
- P-2 = Reads X12 from T-2, parses, records to T-3/4, starts APPL
- Note: Separate P-2s exist for each transaction set (by 3 position D)
- APPL = Respective DSS Applications (MRO, Receiving, Inventory, e)
- P-3 = Purges record from T-3/4 and creates archive records on T-5



DSS Outbound Transaction Flow



Database Tables:

T-1 = Control Table (X12 to P-4 cross reference)

T-2 = X12 History Table (X12 footprint)

T-3 = Parsed Transaction Data

T-4 = Parsed Transaction Repeating Data

T-5 = Archived T-3 Data

T-6 = Archived T-4 Data

T-7 = Control Table (MILs or DLMS by 3 pos MILs DCA)

Programs:

P-1 = Accepts record from Q, reads T-1, starts P-4

P-3 = Purges record from T-3/4 and creates archive record on T-5/6

P-4 = Reads parsed records from T-3/4, formats X12, puts to Q, starts P-3

Note: Separate P-4s exist for each transaction set (by 3 pos DS)

APPL = Respective DSS Applications (MRO, Receiving, Inventory, etc)



DSS DLMS / DLSS Transactions

Inbound

140B = N/A
315B = N/A
527D = DU, DW, C2G, C2H, C3C
527R = DXA, DXB
650A = C2A, C2B, C2D
824R = DZG (and semantic rejects)
842A/R/W = CD4, S7A, W7A
846P = DJA, DZJ
846S = DZC
856 = PK5
856A = CBF, CDF, CDP, CDY
856S = AS8
870S = AB
888I = DZB
940R = A2, A5, AC, AF, AK, AM, CGU, ZGU
997 = N/A

Outbound

140A = DSM
140B = N/A
511R = C01, C0A, CQ1, CQA
527R = BAY, C2J, C2K, C3D, D4, D6, DRA, DXC, DXD, DZK, Z6T
650C = C2F
824R = DZG
842A/R/W = CD5, S7A, W7A
846P = DZM
846R = DZH, DZN, DZP
846S = DZD
856A = TAV, TAW, CBF, CDF, CDP, CDY
856N = AD
856S = AS8, BAZ
861 = PKN, PKP
867I = D7, DZK
870S = AE3
888A = DSA
888B = N/A
945A = A6, AE6, AEJ, AG, AR, ASZ, AU
947I = D8, D9, DAC, DZK



DLMSO Website

- IC – Implementation Conventions
- DS - DLMS Supplements
- ADC – Approved DLMS Changes
- DLSS to DLMS Cross Reference
- Dictionary
- On-Line Training
- Much More



References

- DLMSO: <http://www.dla.mil/j-6/dlmso/>
- Envelopes (ISA / IEA / GS / GE):
http://fedebiz.disa.mil/private/edit/document/guidelines/part10/Part_10_004030.pdf
- DAASC: Proprietary Maps (DLSS / DLMS)
- X12 Standards (book):
4030 is Draft Version 4 Release 3
Document Number: ASCX12S/99-186



Steps & Recommendations

- Develop a strong rapport with DLMSO and DAASC
- Obtain training or otherwise become familiar with transactions and enveloping
- Assemble library detailed in “References”
- Determine all DLSS utilized (categorized by inbound or outbound)
- Determine DLMS equivalent transactions for all DLSS transactions utilized (via DLMSO website)
- Gather all applicable DLMS Supplements (via DLMSO website)



Steps & Recommendations (continued)

- Plan to exchange all transactions with all trading partners exclusively via DAASC (100%)
- Determine extent of intended X12 processing (full X12 with delimiters & envelopes, or UDF, etc)
- Begin discussions with DAASC pertaining to intentions, transmission protocol, design, and interface testing
- Request DAASC's DLSS to DLMS translation maps (these are proprietary)



Steps & Recommendations (continued)

- Scrutinize every piece of data within your DLSS transactions to ensure it is accommodated within the respective DS and DAASC map (may need PDC)
- Design to incorporate DLMS processing into your actual application functionality to enable future expansion & data capabilities (“think DLMS” vice a mere front end transaction scraper)
- Incorporate into you design an On/Off switch (table) for all outbound transactions (DSS uses full 3 position MILs DIC) – DAASC controls your inbound
- Design and develop your system
- Conduct thorough and extensive unit and interface testing with DAASC



Questions?